Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 – 73: Cancelled

74. (New) A method of thermally treating disk-shaped substrates in a rapid heating unit having at least one first radiation source, which is spaced from a given substrate, for heating the substrate, including the steps of:

heating the substrate, and

cooling the substrate in a cooling phase that follows the heating phase, wherein during at least a portion of the cooling phase, the substrate is supported at a distance from 50µm to 1mm via ultrasonic levitation from a heating/cooling plate.

75. New) A method according to claim 74, wherein said distance is between 150 and 500 µm.

76. (New) A method according to claim 74, wherein said heating/cooling plate is provided with at least one first ultrasonic electrode.

77. (New) A method according to claim 76, wherein said at least one first ultrasonic electrode has at least one flat radiation surface that essentially corresponds to a shape and size of said substrate.

78. (New) A method according to claim 77, wherein said at least one first ultrasonic electrode has at least one second radiation surface that is inclined relative to the flat radiation surface thereof and by means of which the substrate is supported in a prescribed lateral position.

79. (New) A method according to claim 76, wherein at least one second ultrasonic electrode is provided and is angled and/or movable relative to said at least one first ultrasonic

electrode.

80. (New) A method according to claim 79, wherein the substrate is supported by the at least one second ultrasonic electrode in a prescribed lateral position.

81. (New) A method according to claim 74, wherein during an initial portion of the heating/cooling phase, the substrate is spaced from the heating/cooling plate at a distance of between 50µm and 1mm, and wherein during a following portion of the cooling phase, the substrate is supported at a greater distance relative to the heating/cooling plate.

82. (New) A method according to claim 81, wherein the substrate is spaced from the heating/cooling plate at a distance of between 50µm until the substrate has essentially reached the temperature of the heating/cooling plate.

83. (New) A method according to claim 74, wherein the heating/cooling plate has a thermal mass that is considerably greater than that of the substrate.

84. (New) A method according to claim 74, wherein the temperature of the heating/cooling plate is controlled.

85. (New) A method according to claim 74, wherein the heating/cooling plate is essentially transparent for the radiation of the at least one first radiation source.

86. (New) A method according to claim 85, wherein for heating the heating/cooling plate, a fluid that is essentially opaque for the radiation of the at least one first radiation source is introduced into a chamber of the heating/cooling plate.

87. (New) A method according to claim 85, wherein during a direct radiation heating of the substrate via the at least one first radiation source, a fluid that is essentially transparent for the radiation of the radiation source is introduced into a chamber of the heating/cooling plate.

88. (New) A method according to claim 82, wherein for a cooling of the heating/cooling plate, a fluid is conveyed through a chamber of the heating/cooling plate.

89. (New) A method according to claim 74, wherein the heating/cooling plate is

essentially opaque for thermal radiation originating from the substrate.

90. (New) A method according to claim 74, wherein at least one second radiation source is provided on a side of a heating/cooling plate that faces away from the substrate, wherein the heating/cooling plate is essentially opaque for the radiation of the at least one second radiation source, and wherein the heating/cooling plate is heated at least partially by the at least one second radiation source during a thermal treatment.

91. (New) A method according to claim 90, wherein the at least one second radiation source has a different wave length than does the at least one first radiation source.

92. (New) A method according to claim 74, wherein during at least a portion of the heating phase, the substrate is spaced from the heating/cooling plate by a distance of between 50µm and 1mm.

93. (New) A method according to claim 92, wherein during an initial portion of the heating phase, the substrate is spaced from the heating/cooling plate by a distance of between 50µm and 1mm, and wherein during a following portion of the heating phase, the substrate is supported relative to the heating/cooling plate at a greater distance.

94. (New) A method according to claim 74, wherein at least during portions of a thermal treatment the substrate is rotated.

95. (New) A method according to claim 94, wherein the substrate is rotated by a rotating noise field, by rotation of the heating/cooling plate and/or by rotation of at least one ultrasonic electrode, or by a gas stream directed onto the substrate.

96. (New) A method of thermally treating disk-shaped substrates in a rapid heating unit, including the steps of:

heating a given substrate, in a heating phase, via a radiation source that is spaced from the substrate; and

cooling the substrate in a cooling phase that follows the heating phase, wherein

during thermal treatment the substrate is supported in the rapid heating unit via ultrasonic levitation.

97. (New) A method according to claim 96, wherein a distance between a first ultrasonic electrode and the substrate is altered during the thermal treatment.

98. (New) A method according to claim 97, wherein at least a portion of the cooling phase, the substrate is spaced from the heating/cooling plate by a distance of between 50µm and 1mm, in particular between 150 and 500 µm.

99. (New) A method according to claim 98, wherein the heating/cooling plate is provided with at least one first ultrasonic electrode.

100. (New) A method according to claim 99, wherein the at least one first ultrasonic electrode has at least one flat radiation surface that essentially corresponds to a shape and size of a substrate.

101. (New) A method according to claim 100, wherein the at least one first ultrasonic electrode has at least one second radiation surface that is inclined relative to the flat radiation surface thereof and by means of which the substrate is supported in a prescribed lateral position.

102. (New) A method according to claim 99, wherein at least one second ultrasonic electrode is provided that is angled and/or movable relative to the at least one first ultrasonic electrode.

103. (New) A method according to claim 102, wherein the substrate is supported in a prescribed lateral position by the at least one second ultrasonic electrode.

104. (New) A method according to claim 96, wherein during an initial portion of the cooling phase, the substrate is spaced from a heating/cooling plate by a distance of between 50µm and 1mm, and wherein during a following portion of the cooling phase, the substrate is supported relative to the heating/cooling phase at a greater distance.

105. (New) A method according to claim 96, wherein the substrate is spaced from a

heating/cooling plate at a distance of between 50µm and 1mm until the substrate has essentially reached the temperature of the heating/cooling plate.

106. (New) A method according to claim 96, wherein a heating/cooling plate is provided that has a thermal mask that is considerably greater than that of the substrate.

107. (New) A method according to claim 96, wherein a heating/cooling plate is provided, and wherein the temperature of the heating/cooling plate is controlled.

108. (New) A method according to claim 96, wherein a heating/cooling plate is provided that is essentially transparent for the radiation of the radiation source.

109. (New) A method according to claim 108, wherein for a heating/cooling, a fluid that is essentially opaque for the radiation of the radiation source is introduced into a chamber of the heating/cooling plate.

110. (New) A method according to claim 108, wherein during a direct radiation heating of the substrate via the radiation source, a fluid that is essentially transparent for the radiation of the radiation source is conveyed into a chamber of the heating/cooling plate.

111. (New) A method according to 107, wherein for a cooling of the heating/cooling plate, a fluid is conveyed through a chamber of the heating/cooling plate.

112. (New) A method according to claim 96, wherein a heating/cooling plate is provided, and wherein the heating/cooling plate is essentially opaque for thermal radiation originating from the substrate.

113. (New) A method according to claim 96, wherein a heating/cooling plate is provided, wherein at least one second radiation source is provided on a side of a heating/cooling plate that faces away from the substrate, wherein the heating/cooling plate is essentially opaque for the radiation of the at least one second radiation source, and wherein the heating/cooling plate is at least partially heated by the at least one second radiation source during a thermal treatment.

114. (New) A method according to claim 113, wherein the at least one second radiation source has a different wave length than does the first radiation source.

115. (New) A method according to claim 96, wherein during at least a portion of the heating phase, the substrate is spaced from a heating/cooling plate by a distance of about 50µm and 1mm.

116. (New) A method according to claim 115, wherein during an initial portion of the heating phase, the substrate is spaced from the heating/cooling plate by a distance of 50µm and 1mm, and wherein during a following portion of the heating phase, a substrate is supported relative to the heating/cooling plate at a greater distance.

117. (New) A method according to claim 96, wherein during at least portions of a thermal treatment, the substrate is rotated.

118. (New) A method according to claim 117, wherein the substrate is rotated by a rotating sound field, by rotation of the heating/cooling plate and/or by rotation of at least one ultrasonic electrode, or by a gas stream that is directed onto the substrate.

119. (New) An apparatus for thermally treating disk-shaped substrates, comprising:

a rapid heating unit having at least one first radiation source spaced from a given substrate for heating the substrate; and

at least one first ultrasonic electrode for supporting the substrate in the rapid heating unit in a non-contact manner.

120. (New) An apparatus according to claim 119, wherein the at least one first ultrasonic electrode has at least one flat radiation surface that essentially corresponds to a shape and size of the substrate.

121. (New) An apparatus according to claim 119, which includes a control device for operating the at least one first ultrasonic electrode in the short-range field in order to support the substrate above the at least one first ultrasonic electrode at a distance of between 50µm and

1mm, in particular between 150 and 500µm.

122. (New) An apparatus according to claim 119, wherein at least one ultrasonic electrode forms a heating/cooling plate or is in thermally conductive contact with a heating/cooling plate, and wherein the heating/cooling plate has a thermal mass that is considerably greater than that of the substrate.

123. (New) An apparatus according to claim 122, wherein the at least one first ultrasonic electrode is a coating on the heating/cooling plate.

124. (New) An apparatus according to claim 120, wherein the at least one first ultrasonic electrode has at least one second radiation surface that is inclined relative to the flat radiation surface.

125. (New) An apparatus according to claim 119, wherein at least one second ultrasonic electrode is provided that is angled and/or is movable relative to at least one first ultrasonic electrode.

126. (New) An apparatus according to claim 125, wherein the at least one second ultrasonic electrode has a ring-shaped form.

127. (New) An apparatus according to claim 124, wherein at least three second ultrasonic electrodes are disposed on a circular line.

128. (New) An apparatus according to claim 127, wherein the second ultrasonic electrodes are radially movable relative to a center point of the circular line and/or are movable vertically.

129. (New) An apparatus according to claim 125, which includes a control device for controlling the at least one second ultrasonic electrode in such a way that it generates a rotating sound field.

130. (New) An apparatus according to claim 119, wherein at least one second ultrasonic electrode is provided, and wherein the at least one second ultrasonic electrode is

disposed on a compensation ring that radially surrounds the substrate.

131. (New) An apparatus according to claim 130, wherein the at least one second ultrasonic electrode is inclined relative to the plane of the compensation ring.

132. (New) An apparatus according to claim 122, which includes a device for controlling the temperature of the heating/cooling plate.

133. (New) An apparatus according to claim 122, wherein the heating/cooling plate is essentially transparent for the radiation of the at least one first radiation source, and/or wherein the heating/cooling plate is essentially opaque for thermal radiation originating from the substrate.

134. (New) An apparatus according to claim 122, wherein at least one second radiation source is provided on a side of the heating/cooling plate that faces away from the substrate, and wherein the heating/cooling plate is essentially opaque for the radiation of the at least one second radiation source.

135. (New) An apparatus according to claim 134, wherein the at least one second radiation source has a wavelength that is different than that of the at least one first radiation source.

136. (New) An apparatus according to claim 119, wherein a device is provided for generating a rotational impulse for the substrate.

137. (New) An apparatus according to claim 136, wherein the device is provided with a control device for generating a rotating sound field.

138. (New) An apparatus according to claim 136, wherein a mechanism is provided for a rotation of a heating/cooling plate and/or at least one ultrasonic electrode about a prescribed point of rotation.

139. (New) An apparatus according to claim 136, wherein at least one gas nozzle is directed onto the substrate.

140. (New) An apparatus according to claim 139, wherein the at least one gas nozzle is disposed in the heating/cooling plate, in an ultrasonic electrode, and/or in a compensation ring that surrounds the substrate.